REMARKS

This responds to the final Office Action mailed March 26, 2004. A telephone interview with the Examiner occurred on May 25, 2004 for which Applicant expresses thanks. In accordance with the interview, Applicant now proposes to amend paragraph [0066] of the specification and to amend claim 100. Applicant is also amending the dependency of claim 122 to depend from claim 119 instead of from claim 100.

Entry of this Amendment is proper because the proposed amendments to the specification and claim 100 are formal, or clarifying, in nature and are made in response to the objection and rejections made for the first time in the final Office Action. Furthermore, the change in dependency of claim 122 was made to provide antecedent basis for "multiple steps" recited in lines 2 and 3 of claim 122 thereby resolving an issue not raised in the final Office Action.

The outstanding issues are addressed in the order discussed in the final Office Action. Where applicable, the substance of the May 25, 2004 interview is noted per MPEP 713.04.

I. Claims 100-139 are active in this Application as having been elected in responding to a restriction requirement and are all submitted to be in allowable condition.

Claims 29-47, 49-82, 84-99, 140-158, and 160-175 are pending in this Application but stand withdrawn as having been non-elected. Claims 1-28, 48, 83, and 159 have been cancelled. Once elected claims 100-139 are allowed, Applicant hereby authorizes the Examiner to cancel withdrawn claims 29-47, 49-82, 84-99, 140-158, and 160-175 in an Examiner's Amendment to place the Application in allowable condition.

II. Objection to New Matter in Specification under 35 U.S.C. §132.

The Examiner objected that the terms "iterative" and "iteratively" added by the November 2003 Amendment are not supported by the original disclosure. During the May 25 interview, Applicant noted a number of paragraphs in the specification that supported these terms. These are discussed below.

1. Explicit support for **"iterative process"** is found in the original Application in the first sentence of paragraph [0524]. (AAF, p. 124, para. 2.)[1] This paragraph states, *"As discussed above, this iterative process preferably occurs automatically...[emphasis added]."* This passage

[1] The paragraph numbering herein refers to the paragraphs as numbered in the published Application. But as requested by the Examiner, the corresponding page and paragraph numbers of the application as filed ("AAF") are also provided.

refers specifically to the interview process whose purpose is to convey provider information to be used in Applicant's iterative scoring system and iterative and rescoring as described in the original Application. (See paragraphs [0517]-[0524]; AAF, pp. 122-124.)

2. Implicit support for **"iterative scoring system"** and **"iterative rescoring"** is also found in numerous passages of the original Application. For example, support for the iterative nature of the scoring and rescoring processes is set forth below. These portions of the original Application comport with well known dictionary definitions of these expressions.[2]

(a) Paragraph [0455] (AAF, p. 107, para. 3) teaches a level of iteration within the process of determining the acceptability of pairings which is part of the process of scoring and ranking. If a pairing of human shoppers passes a matching process, additional matching processes may then be run on the same pairing. Further, if a pairing of human shoppers fails a matching process thus eliminating the pairing, additional matching processes may then be run on the same pairing which may override the first decision. The additional matching processes confirm that the Application discloses iterative process.

(b) Paragraphs [0071] (AAF, p. 22, para. 3), [0085] (AAF, p. 25, para. 2), [0097] (AAF, p. 28, para. 1), [0404] (AAF, p. 95, last para.), and [0405] (AAF, p. 96, first para. of text) teach the use of correction factors for scoring and ranking; specifically, a correction factor based on objective testing, a correction factor based upon interviewing, and a correction factor based upon reference checking. The use of such correction factors as disclosed in the Application are iterative in nature because they serve to modify the score or rank of a matched pair when and as the correction factors become available. The Application also discloses how the repeated modification of the score or rank when new information becomes available may continue until the desired condition is met, namely, that all required tests, interviews and reference checks have been performed as required by the requester (purchaser) and as additionally required by the system. The iterative nature of this disclosure is confirmed by the third and fourth sentences of paragraph [0085] (AAF, p. 25, para. 2): *"That is, if a human shopper had been previously scored, this scoring information may be used as a starting point for*

[2] A sample definition of **"iterative process"** is provided by the Merriam-Webster Dictionary, as "(a) involving repetition ..." and "(b) relating to or being iteration of an operation or procedure." **"Iteration"**, moreover, is defined as "the action or a process of iterating or repeating as (a) a procedure in which repetition of a sequence of operations yields results successively closer to a desired result, or (b) the repetition of a sequence of computer instructions a specified number of times or until a condition is met."

an interview or test administered by this system. Answers to interview and/or test questions may be used to verify or correct the previous scoring."

(c) The Application also supports "iteration" in relation to scoring and ranking, namely, that a "step", i.e., a test, interview or reference check, may be conditional and may be repeated if certain conditions exist. For example, a test may be repeated if the scores on the first taking of the test are higher or lower than a certain threshold value. (Wee paragraph [0188]; AAF, p. 43, first para. of text).

(d) The Application also supports the "iterative" process in relation to scoring and ranking, namely, that the correction factors, and therefore the score and rank, of a given pairing may be periodically updated. This support is found at paragraphs [0100] (AAF, p. 29, para. 4), [0501] (AAF, p. 118, para. 2), [0515] (AAF, para. bridging pp. 121-122) and [0526] (AAF, p. 124, para. 3). Paragraph [0526] (AAF, p. 124, para. 3) also discloses that users may be charged for the privilege of updating their score and/or rank in this way.

3. In sum, Applicant submits that the original Application supports "iterative scoring system" and "iterative rescoring." Accordingly, Applicant submits that the new matter objection to the November 24, 2004 Amendment should be withdrawn.

III. Rejection of Claims 100-139 Under the Written Description Requirement.

The final Office Action next rejected claims 100-139 on grounds that the limitation that the knowledge base is "separate from the user information and separate from program code" is not clearly disclosed in the original Application. During the interview, Applicant pointed out figures and paragraphs in the Application that provide such support. These are discussed below.

1. The Application discloses that Applicant's knowledge base is structurally separate from the user information and program code. As discussed during the interview, the figures in the Application show this. For example, knowledge base 305 of figure 15 and knowledge base 505 of figure 18 are set forth separately from other elements. During the interview, the Examiner inquired whether element 302 in figure 15 represented the separate order information of claim 100. Applicant confirms that this is the case.

Applicant also notes that the knowledge base is structurally separate from program code in that it is not contained in the program code as, for example, a flow chart or series of branch points. Instead, the knowledge base is separate and may be accessed by the

program code as needed. The knowledge base is also structurally separate from other stored data in that it is preferably stored as a separate relational database table or group of tables, i.e., tables that comprise independent entities. These separate database tables or groups of tables may or may not be physically housed on the same piece of storage hardware as other data.

2. The Application also supports how the knowledge base is functionally separate from the user information and program code. Paragraphs [0066] (AAF, p. 20, last para.) through [0068] (AAF, p. 68, para. 3) disclose how the knowledge base may be utilized and maintained, i.e., updated, independently of other data such as provider and purchaser data.

(a) Paragraph [0067] (AAF, p. 21, para. 2), lines 4-9, and paragraph [0068] (AAF, p. 21, para. 3) disclose how the knowledge base may be automatically maintained and how its source of information may be experts that are not otherwise users of the system. Lines 1-3 of paragraph [0387] (AAF, p. 90, last para.) explicitly disclose that "the knowledge-base may be maintained by experts." Paragraph [0510] (AAF, p. 120, last para.) discloses that experts may interface with the knowledge base using input forms and through a subsystem known and the "[k]nowledge-base updating subsystem". (See figures 15 and 18 which disclose how such experts may provide expert input 306, 506 to the knowledge base 305, 505 independent of other information.) Paragraph [0475] (AAF, p. 112, para. 3) adds that the experts may be notified by the system that there are changes in the knowledge base that require modifying test and interview questions and answers which are also stored in the knowledge base.

(b) Paragraph [0075] (AAF, p. 23, para. 2) discloses that the knowledge base may gather information using "data mining" methods. Lines 4-12 of paragraph [0387] (AAF, p. 90, last para.) and all of paragraph [0388] (AAF, p. 91, para. 1) disclose that the knowledge base may be also be updated in response to write-in answers provided by users when answering questions. (See figures 15 and 18, elements 310 and 510, respectively.)

(c) The Application also discloses how the knowledge base is functionally separate from other stored data by detailing how information in the knowledge base may be linked to other stored data, namely the requester (purchaser) and provider data. This teaching is found in lines 5-10 of paragraph [0427] (AAF, p. 102, para. 1) and lines 4-9 of paragraph [0428] (AAF, p. 102, para. 2).

(d) The Application also discloses that the knowledge base is functionally separate from other data in paragraph [0069] (AAF, p. 21, last para.) which teaches that the knowledge base evolves to reflect the current reality of human society and technology. Paragraph [0069] (AAF, p. 21, last para.) teaches that as this occurs, users (human shoppers) may modify their stored information, i.e., which is the bulk of other data in the system, to respond to or reflect new information in the knowledge base. This disclosure explains how Applicant's knowledge base is functionally separate from other data in the system.

3. Applicant submits that the limitation that the knowledge base is "separate from the user information and separate from program code" is disclosed in the original Application. Accordingly, Applicant submits that the rejection of claims 100-139 as failing to meet the written description requirement should be withdrawn.

4. It is noted that Applicant is proposing to amend paragraph [0066] to explicitly reflect the separateness of the knowledge base. For the reasons discussed above, Applicant submits that the Application supports this amendment.

IV. Rejection of claims 100-139 for Indefiniteness.

Applicant submits that this rejection is moot in view of the clarifying amendment of independent claim 100 to provide antecedent basis for "program code".

V. Rejection of claims 100-102 as Obvious Over Durand in View of Puram.

During the interview, Applicant submitted that neither the Durand or Puram references, or combination thereof, disclose the knowledge base as set forth in the pending claims. Because Applicant understood the final Office Action to mean that the Examiner believed that Durand did not disclose a knowledge base that is separate from user information and program code, the interview focused on the teaching of Puram.

In the final Office Action, the Examiner stated that "Puram et al. teaches a similar matching system whereby the hardware configurations can take different forms to facilitate the system (See at least Col. 3, lines 7-17); the reference specifically teaching that the data receiving and interrogating process 68 is separate from the database(s) 65 which is also separate from the matching and ranking program code 69 (See, for example, Fig. 1C)."

Applicant was not entirely clear from the final Office Action as to which of Puram's components the Examiner believed to disclose the knowledge base, user information and

program code of the claimed invention. From the final Office Action, it appeared that the Examiner could be relying on various of elements in Puram's Fig. 1c. Applicant inquired as such and the Examiner indicated that element 67 appeared to correspond to the knowledge base. For the reasons discussed below, Applicant believes that Puram (along with Durand) does not render the claims 100-102 obvious.

1. As pointed out during the interview, the knowledge base of the claimed invention contains facts and rules for problem solving, and Puram et al. does not disclose such a knowledge base (nor any knowledge base for that matter). The Examiner indicated that claim 100 would need to be amended to reflect the facts and rules for problem solving characteristic, and Applicant is amending claim 100 accordingly. This amendment to claim 100 is supported by the specification as well as the meaning of "knowledge base" in the relevant art.

2. The definition of "**knowledge base**" as set forth in The American Heritage® Dictionary of the English Language, 4th Ed., © 2000, Published by the Houghton Mifflin Company, is:

"n. ... 1. Computer Science. The part of an expert system that contains the facts and rules needed to solve problems [emphasis added]. 2. A collection of facts and rules for problem solving."

Applicant submits that one of ordinary skill in the art would be aware of this definition of "knowledge base" and would understand that a "knowledge base" is more than a compilation of facts (database), but is instead a body of two types of information - facts and rules needed to solve problems, i.e., a database containing both facts and rules that solves problems.

3. During the interview, Applicant noted various paragraphs in the Application providing support for the knowledge base of current claim 100. They are discussed below.

(a) Paragraph [0083] (AAF, p. 20, para. 3), of the Application states, *"In another aspect of the current invention, interview and test questions, along with information needed for scoring answers, are stored in* ***a knowledge-base*** *(a database of questions, answer options and related information) [emphasis added]."* This reflects a database containing both facts and rules (dependencies), i.e., Applicant's knowledge base. In this passage, the problem to be solved is constructing and scoring an interview or a test. Interview and test questions are the facts, while the information needed for constructing the interview and test, and for scoring

answers includes the rules (i.e., dependencies) that guide the system in solving the problem. (See paragraphs [0083] (AAF, p. 20, para. 3) through [0090] (AAF, p. 26, para. 4).) For example, in the last four lines of paragraph [0090], *"... the questions asked may be dependent upon the answers to previous questions in the same test or interview.* ***This dependency may be determined by information contained in the "knowledge-base" referred to earlier*** *[emphasis added]."* In other words, the dependencies, i.e., rules, determine which questions are asked and the order of the questions asked.

(b) Paragraph [0386] (AAF, p. 90, para. 2) states, *"The Knowledge-base preferably contains all of the information necessary to generate these variable input forms...."* Here the problem to be solved is to construct a variable input form. The facts used are *"the types of questions to be included in the input forms and, for multiple-choice questions, the particular options within each multiple choice question."* (See the second sentence of paragraph [0386]). The rules used to construct the form are *"the dependencies between the answers provided by human shoppers or providers and subsequent questions and multiple-choice options provided by the system."* (See the third sentence of paragraph [0386].) This same distinction occurs in the construction of tests and interviews. (See paragraphs [0473] (AAF, p. 112, para. 1) and [0474] (AAF, p. 112, para. 2).) Paragraph [0474] (AAF, p. 112, para. 2) teaches the distinction between questions included in tests and interviews, and the dependencies, i.e., rules, used to select subsequent questions as follows:

> *"The knowledge-base (505) preferably contains all of the information to generate these variable input forms, as illustrated in Figure 20. To this end, the knowledge-base (505) preferably includes the types of questions to be included in the input form, and, for multiple-choice questions, the particular options within each multiple-choice question. The knowledge-base (505) may also include the dependencies between the answers provided by human shoppers and subsequent questions and multiple-choice options provided by the system."*

In view of the foregoing, Applicant submits that the knowledge base of the pending claims *"which contains facts and rules for problem solving"* is supported by the Application.

4. **The Duran/Puram combination does not render claims 100-102 obvious because it does not teach a knowledge base, nor the knowledge base of the claimed invention.** Processes 67 or 68, and database(s) 65 of Puram et al. do not disclose a knowledge

base, let alone the knowledge base of the claimed invention. Puram et al. discusses the nature of these elements shown in Fig. 1c in Col. 3, lines 31-39 as follows:

The server 55 carries or is able to access one or more databases 65 which store and process data about candidates and the positions to be filled. Several processes are performed by the server or another computer, including gathering and interrogating data from candidates 67, gathering and interrogating data from employers about positions to be filled 68, and then searching the database to find and rank candidates whose qualifications suit the needs of the positions to be filled 69 [emphasis added].

(a) This passage makes clear that the data receiving and interrogating process 68 of Puram et al. is a process for gathering needs data and employer data. There is no disclosure that describes process 68 as a knowledge base, or even as a body of data or information. For example, Col. 3, lines 36-37, describes 68 only as a "process." Applicant therefore submits that, "*gathering and interrogating data from employers about positions to be filled 68*" does not constitute a database containing both facts and rules for solving problems and is therefore not a knowledge base as in the claimed invention.

(b) This passage additionally makes clear that the database 65 of Puram et al. is a database containing data about candidates and positions to be filled. Applicant submits that, "*one or more databases 65 which store and process data about candidates and the positions to be filled*", does not constitute a database containing both facts and rules, and is therefore not a knowledge base as in the claimed invention. Even if database 65 was construed to be similar to Applicant's user information databases 509 (see in Fig.18) which contain provider information, purchaser information, and order data, Applicant's user information databases 509, are still clearly separate from Applicant's knowledge base 505 (see Fig. 18).

(c) This passage makes clear that the data receiving and interrogating process 67 of Puram et al. is a process for gathering skills data. There is no disclosure that describes process 67 as a knowledge base, or even as a body of data or information. Again, Col. 3, lines 36-37, describes 68 only as a "process." Applicant therefore submits that, "*receiving skill data 67*" does not constitute a database containing both facts and rules for solving problems and is therefore not a knowledge base as in the claimed invention.

(d) Puram et al. provide forms for users, i.e., pre-defined lists of skills and tools (see Col. 4, lines 1-5; Col. 4, lines 62-65; and Fig. 7, auxiliary table 170). Puram et al.,

however, do not provide for revising the pre-defined lists using a knowledge base of questions and possible answers.

(e) Puram et al. provide a method of asking third parties to verify technical information input by users (see Col. 5, lines 21-28). Puram et al., however, do not provide for generating tests and interviews using a knowledge base of questions and possible answers.

(f) During the interview, Applicant noted the disclosure of Puram et al. regarding "artificial intelligence." Puram et al. teaches the use of "artificial intelligence" to assist employers in selecting the technical requirements for a job, including *"methodology being used, industry knowledge and related technologies"* in an alternate embodiment (see Col. 6, lines 16-30). There is no reference in Puram et al., however, to where or how these methodologies, industry knowledge and related technologies" are stored. That is, Puram et al. read as a whole is not seen to make reference to a database containing both facts and rules, even though various databases containing user facts are mentioned.

5. **The Duran/Puram combination does not render claims 100-102 obvious because neither the relational database 32 nor the global rules of element 65 disclosed in Puram et al. teach a knowledge base, nor a knowledge base of the claimed invention.**

(a) Regarding the relational database 32 of Puram et al., as shown in Figure 1b, and as discussed in Col. 2, lines 62-65, server 25 receives data from employers and candidates. File server 30 stores the relational database 32 and supplies data to and retrieves data from server 25. This arrangement does not constitute a database containing both facts and rules for solving problems and is therefore not a knowledge base as set forth in the claimed invention.

In any event, if - for the sake of argument - the relational database 32 were to be construed as a knowledge base, the relational database 32 is still not separate from the user information unlike the knowledge base of the present invention.

(b) As for the "rules" in Fig. 1c of Puram et al., element 65 of Fig. 1c states, *"Databases containing records for: candidates and their skills; employers and their* ***rules****; and positions and their needs [emphasis added]."* Here, the word "rules" refers to *"additional parameters that the company uses to make hiring decisions."* (see Col. 6, lines 55-56.) Additionally, the same paragraph of Puram et al. states, *"To easily accommodate the incorporation of these kinds of parameters, the system and method includes a file or database for*

each employer that includes such ***global rules or preferences. [emphasis added]"*** (see Col. 6, lines 59-62).

Such databases 65 are not "knowledge bases". This is because the "rules" in a knowledge base are rules used by the computer system to solve a problem. In contrast, the "rules" mentioned in Puram et al. are treated by the system as literal facts and are not rules for problem solving in accordance with the art-accepted definition of knowledge base. The rules in Puram et al. do not control the operation of the system. Therefore, from the point of the view of the system, Puram et al.'s "rules" or "global rules" are simply facts about the employer no matter what the employer calls them. Thus, databases 65 of Puram et al. (Col. 6, lines 60-61, and Figure 1C) are not knowledge bases.

In any event, if – for the sake of argument - databases 65 of Puram et al. were construed to be knowledge bases, databases 65 still do not serve the same purpose as the knowledge base of the claimed invention. Applicant's knowledge base facilitates the creation of input forms, tests and interviews, as well the process of scoring and ranking. In Puram et al., the databases 65 are used only in the matching process, not for creation of input forms, tests and interviews.

VI. The Limitations Recited in Claims 103-113, 117, 118, 120, 121, 123-131, and 133-139 Being Classified as Design Choices.

Lastly, the Office Action stated that the limitations of the above-listed claims are known in e-commerce and other electronic activity so that to modify the teachings of Durand et al. in view of Puram et al. to incorporate these limitations would have been obvious. Applicant believes this is not the case for at least the following reasons.

First, independent claim 100 is not obvious for the reasons given in the foregoing and is submitted to be allowable so that these dependent claims should be found allowable as well.

Second, even if features recited in the dependent claims are "known in e-commerce or other electronic activity" as the Examiner maintains, Applicant submits that use of such elements in conjunction with Applicant's system that includes a knowledge base is novel and nonobvious. Dependent claims 101-139 are submitted to recite limitations which are not mere design choices as follows.

Claims 103-106 recite the knowledge base as containing correction information used to generate verification materials, e.g., tests, interviews, and reference checking. These features are neither taught nor suggested by the art of record. In claim 104, the storage of rules in a knowledge base by which such verification materials are constructed is neither taught nor suggested by the art of record. In claim 105, construing the verification materials in real-time is clearly neither taught nor suggested by the art of record. In claim 106, the recitation that the verification materials include, for example, multiple choice questions is neither taught nor suggested by the art of record.

Claims 107-111 recite features about requests for information generated by the system from information contained in Applicant's knowledge base. These features are neither taught nor suggested by the art of record.

Claims 112-114 recite a knowledge base system that updates the information contained in Applicant's knowledge base automatically so that Applicant's knowledge base is an adaptive knowledge base. Automatic updating of a knowledge base is neither taught nor suggested by the art of record. In claim 113, the updates trigger requests for additional user information. The use of a knowledge base updating as a trigger for requesting additional user information is neither taught nor suggested by the art of record. In claim 114, a reporting system reports the automatic updating to the users, and users input additional information into the system based in response to the advisories. This is neither taught nor suggested by the art of record.

Claims 115-129 additionally recite the scoring system and features thereof. The prior art does not show scoring in a system like Applicant's that includes a knowledge base. In claim 120, automatic rescoring takes place based on correction factors, and in claim 121, the correction factors are derived from interviews, tests, and reference checks. Applicant submits that it would not have been obvious to correct scores based upon new information about each match, e.g., information from interviews, testing, and reference checking. In claim 122, a management system which tracks and a sequencing system which specifies contents of multiple steps are recited. These are not simply program steps, but are an exchange of information with users, i.e., requesting and receiving information, over the plurality of steps. Claims 123-125 involve timers and alarms. Applicant submits using these elements in the context of Applicant's automated human shopping system is not known since the timing of each step is so variable in this context.

In claim 126, the various steps in the multiple steps of Applicant's matching process include requests for information (verification) from the user and the sequencing system provides default content, i.e., default verification steps, needed to correct scores. Such requests for information in Applicant's context are submitted to be novel because of the difficulty of automatically generating such requests. In claim 127, users specify the verification steps, instead of being forced to accept default verification steps. This feature is novel because of the difficulty of its implementation.

Claims 130-131 recite elements which are not known in Applicant's context, i.e., applying these devices to automated interviewing.

Claims 132-136 recite additional elements that are not known for the reasons expressed above.

Claim 137 recites a degree of matching being computed without elimination of any providers (unlike Durand et al.). The prior art, as exemplified by Durand et al., considered excessive the cost of system resources utilized by storing and continuously re-scoring all pairings over time. Applicant's solution advantageously permits candidates to re-interview and re-test for the same jobs on a continuous basis and the job requirements to continuously evolve with the objective of obtaining a "best fit". It also creates an environment in which the business can bill for the privilege of participating in this process. This is neither taught nor suggested by the art of record. In fact, Durand et al. – by eliminating candidates - actually teach away from Applicant's claim 137.

Claims 132-136, 138-139 recite additional elements that are not known for the reasons expressed above.

VII. Status of Claims 114-116, 119, 122 and 132.

The final Office Action did not reject claims 114-116, 119, 122 and 132 as obvious over the Durand/Puram combination. Accordingly, during the May 25, 2004 interview, Applicant inquired whether these claims would be allowable if rewritten in independent form. The Examiner indicated his position that these claims were obvious over the Durand/Puram combination. In any event, it is believed that these claims are allowable in light of Applicant's foregoing amendments and arguments.

VIII. Conclusion

In view of the foregoing, Applicant believes that claims 100-139 are allowable, and that this case should be passed onto allowance. Should the Examiner not find the Application to be in allowable condition or believe that a conference would be of value in expediting the prosecution of the Application, Applicant requests that the Examiner telephone the undersigned to discuss the Application.

Respectfully submitted,

JONES DAY

Date: May 26, 2004

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